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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,054	02/26/2002	Kevin J. Schulz	S01.12-0829/STL 10301	4383

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EXAMINER

KLIMOWICZ, WILLIAM JOSEPH

ART UNIT PAPER NUMBER

2652

DATE MAILED: 05/24/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,054

Applicant(s)

SCHULZ ET AL.

Examiner

William J. Klimowicz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 3-5,8-12,14,17-20,22 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6,7,13,15,16,21,23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>15</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Status

Claims 1-25 are currently pending.

Claims 3-5, 8-12, 14, 17-20, 22 and 25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5 (filed June 18, 2002).

Information Disclosure Statement

The Applicants' submission of the supplemental information disclosure statement, allegedly filed March 29, 2004 (Paper No. 19), has not been considered. More concretely, the accompanying PTO-1449 indicates that the submission to be considered is an "Official Search Report of EPO for PCT/US02/06006, Filed February 26, 2002."

It is noted, however, that the Applicants have merely supplied as the references to be considered, a "Form PCT/RO/105", a "Form PCT/RO/146" and a "Form PCT/RO/101" and merely the first page of a "Form PCT/ISA/202."

The reference listed on PTO-1449 has not been considered since the expressly supplied references are NOT the "Official Search Report of EPO for PCT/US02/06006, Filed February 26, 2002." Any further submission for consideration must now comply with 37 CFR 1.97 and will be treated as a filing after the mailing of an Office action made FINAL.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 13, 15, 21, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Erpelding et al. (US 5,606,477).

As per claim 1, Erpelding et al. (US 5,606,477) discloses a suspension (10) comprising: a metal material (e.g., 50) defining at least a portion of the suspension (10); an adhesive (e.g., (54) - COL. 4, lines 5-8) bonded to a portion of the metal material (50) - see also COL. 3, lines 53-58; and a composite material (e.g., 58) having a higher stiffness to weight ratio than the metal material (i.e., high strength beryllium-copper versus stainless steel) and being bonded to the same adhesive layer (54) that is bonded to the metal material (50) - COL. 4, lines 5-8, the adhesive layer (54) being thinner than the composite material (58) - COL. 4, line 6 and line 9.

As per claim 2, wherein the metal material (50) defines a load beam (e.g., 22) of the suspension (10) and the adhesive (54) and the composite material (58) are positioned on the load beam (22).

Additionally, as per claim 13, a suspension body (10) is formed from a layer of the metal (50); and a composite stiffener (e.g., 58) formed from a composite material (high strength BeCu) and bonded directly to a portion of the suspension body (10) by a single adhesive layer (54) that is thinner than the layer of metal (50) - COL. 4, line 4 and line 9.

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As per claim 15, wherein the composite stiffener (e.g., 58) is bonded to a load beam (22) of the suspension body (10).

Additionally, as per claim 21, the suspension body (10) is formed from a layer of metal (50); and the stiffener means (high strength BeCu) is formed of a composite material for increasing the stiffness of selected areas of the suspension (10) and bonded directly to the suspension body (10) by a single adhesive layer (polyimide - 54) that is thinner than the layer of metal (50) - COL. 4, line 4 and line 9.

As per claim 23, wherein the stiffener means (58) comprises a composite material (high strength BeCu) bonded to a load beam (22) of the suspension body (10).

Additionally, as per claim 24, wherein the stiffener means (58) comprises a composite material (high strength BeCu) having a higher stiffness to mass ratio than the layer of metal (50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erpelding et al. (US 5,606,477) in view of Oberg (US 4,991,045).

See the discussion of Erpelding et al. (US 5,606,477), *supra*.

As per claims 6, 7 and 16, however, Erpelding et al. (US 5,606,477) remains silent with respect to the stiffener (12) being a composite material formed inclusively with a plastic

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composition. More concretely, Erpelding et al. (US 5,606,477) discloses the stiffener material (58) being exclusively a high-strength metal, with no plastic composition additives.

Oberg (US 4,991,045), however, discloses an analogous suspension system used in a data storage device wherein a stiffener material provided as overlying a metal load beam is made of a composite material, such a composite stiffener material (liquid crystal polymers, which may include fillers such as fibers).

As per claims 6 and 16, the composite material (106) comprises a high performance plastic and as per claim 7, the composite material (106) comprises a liquid crystal polymer (see COL. 4, lines 23-47).

Oberg (US 4,991,045) discloses such a composite stiffener (stiffener means) material in lieu of similar exclusively metal stiffener constructions in order to provide, *inter alia*, “substantial weight savings ... which may reduce access time” (COL. 4, lines 18-22) and wherein “[t]he mechanical damping is excellent” when contrasted with conventional stainless steel materials used in similar applications. COL. 4, lines 23-32.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the composite stiffener overlying the metal load beam as taught by Oberg (US 4,991,045) in conjunction with the composition of the metal stiffener of Erpelding et al. (US 5,606,477).

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide the composite stiffener overlying the metal load beam as taught by Oberg (US 4,991,045) as a mixture within the metal stiffener of Erpelding et al. (US 5,606,477) in order to provide, *inter alia*, “substantial weight savings ... which may reduce access time” (COL. 4, lines

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18-22) and wherein "[t]he mechanical damping is excellent" when contrasted with conventional stainless steel materials used in similar applications. COL. 4, lines 23-32.

Response to Arguments

Applicants' arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the Examiner should be directed to William J. Klimowicz whose telephone number is (703) 305-

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3452. The Examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William J. Klimowicz
Primary Examiner
Art Unit 2652

WJK